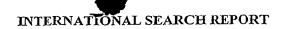
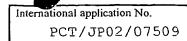


International application No.
PCT/JP02/07509

| A. CLASS Int. | SIFICATION OF SUBJECT MATTER C1 ⁷ F24F3/14, B01D53/26, F28F3 | 3/08 | |
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| According t | o International Patent Classification (IPC) or to both na | ational classification and IPC | , |
| B. FIELD | S SEARCHED | | |
| | ocumentation searched (classification system followed C1 ⁷ F24F3/14, B01D53/26, F28F3 | | |
| Jitsı Koka: | tion searched other than minimum documentation to the LIYO Shinan Koho 1926–1996 i Jitsuyo Shinan Koho 1971–2002 | Toroku Jitsuyo Shinan Koh Jitsuyo Shinan Toroku Koh | o 1994-2002 o 1996-2002 |
| Electronic d | lata base consulted during the international search (nam | ne of data base and, where practicable, sea | rch terms used) |
| C. DOCU | MENTS CONSIDERED TO BE RELEVANT | | |
| Category* | Citation of document, with indication, where ap | ppropriate, of the relevant passages | Relevant to claim No. |
| X Y A | JP 8-313186 A (Mitsubishi El 29 November, 1996 (29.11.96), Full text; all drawings (Family: none) | | 1-4 5-7 8-17 |
| X Y A | Microfilm of the specification to the request of Japanese Utin No. 030488/1980 (Laid-open No. (Mitsubishi Electric Corp.), 07 October, 1981 (07.10.81), Full text; all drawings (Family: none) | llity Model Application | 1-4 5-7 8-17 |
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| × Furth | er documents are listed in the continuation of Box C. | See patent family annex. | |
| "A" docum conside "E" earlier date "L" docum cited to special "O" docum means "P" docum than th Date of the a | l categories of cited documents: ent defining the general state of the art which is not ered to be of particular relevance document but published on or after the international filing ent which may throw doubts on priority claim(s) or which is establish the publication date of another citation or other reason (as specified) ent referring to an oral disclosure, use, exhibition or other ent published prior to the international filing date but later e priority date claimed actual completion of the international search eptember, 2002 (09.09.02) | "T" later document published after the interpriority date and not in conflict with the understand the principle or theory und document of particular relevance; the considered novel or cannot be considered to involve an inventive step when the document is taken alone document of particular relevance; the considered to involve an inventive step combined with one or more other such combination being obvious to a persor document member of the same patent Date of mailing of the international sear 24 September, 2002 | ne application but cited to cerlying the invention claimed invention cannot be red to involve an inventive claimed invention cannot be patched invention cannot be patched in the document is a documents, such a skilled in the art family |
| | nailing address of the ISA/ | Authorized officer | |
| Japa Facsimile N | nese Patent Office | Telephone No. | |
| - 40001111110 14 | | | |





| ategory* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
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| A | Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 122361/1978 (Laid-open No. 39434/1980) (Mitsubishi Electric Corp.), 13 March, 1980 (13.03.80), Full text; all drawings (Family: none) | |
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